Before the

FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the Matter of	)	
	)	
Improving Public Safety Communications	)	WT Docket No. 02-55
in the 800 MHz Band	)	
	)	
Consolidating the 900 MHz Industrial/Land	)	
Transportation and Business Pool Channels	)	

COMMENTS OF MOTIENT COMMUNICATIONS INC.

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May 6, 2002

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EXECUTIVE SUMMARY

Motient strongly supports the Commission's efforts to understand and alleviate interference to public safety operations in the 800 MHz band. However, Motient does not believe the solutions under consideration by the Commission should penalize non-interfering licensees who operate in the band, nor should these solutions result in a spectrum windfall for those licensees responsible for the harmful interference. Motient strongly encourages the Commission to consider other interference mitigation techniques and case-by-case analyses prior to determining that a wholesale restructuring of the 800 MHz band is in order. Furthermore, if the Commission does conclude that re-banding is necessary, Motient believes that there are band plan proposals other than the ones described in the *800 MHz NPRM* that are much better suited to accomplish the desired goals. Motient urges the Commission to consider these other band plan proposals. Finally, due to Motient's unique network infrastructure, any restructuring of the 800 MHz band should consider the distinctive needs of the Motient system and provide suitable spectrum and considerations for its embedded base of over 240,000 subscribers.

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COMMENTS OF MOTIENT COMMUNICATIONS INC.

Motient Communications Inc. ("Motient") hereby submits its Comments on the Notice of Proposed Rulemaking issued by the Commission in the above-captioned proceeding.[1]

I. BACKGROUND

Motient is a leading provider of wireless data services throughout the United States and Puerto Rico and has coverage in all cities with population greater than 50,000 people. Motient provides commercial wireless services to users of the Research in Motion ("RIM") and Palm V handheld devices, as well as to business workgroups through other wireless devices. Motient's customers use its network and applications for wireless email messaging and enterprise data communications services, enabling businesses, mobile workers and consumers to transfer electronic information and messages and access corporate databases and the Internet. Motient's eLink[SM] wireless email service and BlackBerry™ by Motient wireless email provide users integrated wireless access to a broad range of corporate and Internet email and Internet-based

[1] Improving Public Safety Communications in the 800 MHz Band; and Consolidating the 900 MHz Industrial/Land Transportation and Business Pool Channels, WT Docket No. 02-55, *Notice of Proposed Rulemaking*, FCC 02-81 (rel. March 15, 2002) ("*800 MHz NPRM*").

information. One of Motient's largest customers is UPS, which uses Motient's nationwide network to wirelessly track packages delivered across the country.

Motient's system operates solely in the 800 MHz band and uses approximately 2,300 base stations to provide nationwide service to over 240,000 subscribers. Motient principally utilizes 800 MHz Business Pool and General Category frequencies but has also spent $3.4 million to acquire 35 licenses in the FCC's auction of 800 MHz General Category and Lower 80 SMR channels. In all, Motient has invested more than $500 million in 800 MHz infrastructure equipment. Motient is a great success story of innovative use of the electromagnetic spectrum and is one of the few small competitors to the large CMRS providers.

On May 1, 2002 Motient emerged from Chapter 11 reorganization. This restructuring of its balance sheet reduced its total debt from approximately $400 million to approximately $31 million, and leaves Motient on sound financial footing.

II. THE COMMISSION SHOULD EXPLORE METHODS FOR INTERFERENCE MITIGATION THAT ARE LESS DRAMATIC THAN RE-BANDING

The Commission must carefully assess the causes and extent of existing and future interference in the 800 MHz band and if a reorganization plan is necessary, ensure that it is implemented in an even-handed manner.

A. Before Adopting a 800 MHz Reorganization Plan, the Commission Must Address Existing and Potential Interference to Public Safety

Before it compares the proposed solutions, the Commission must first understand and document the sources and causes of interference in the 800 MHz band. Second, the Commission should estimate the extent of existing and potential future interference. Finally, as a part of this rulemaking process, the Commission must also assess the efficacy of interference resolution techniques and their potential for disruption to the operations of all 800 MHz users.

Motient understands from the proposal submitted by Nextel Communications,[2] the Commission-sponsored "Best Practices Guide" for CMRS/Public Safety operations in the 800 MHz band, and the *800 MHz NPRM* that there is an increasing level of interference between public safety operations, on the one hand, and Nextel and certain cellular carriers, on the other hand. Motient is not a source of harmful interference to public safety operations in the 800 MHz band, despite sporadic use of frequencies adjacent to public safety operations.

Motient encourages the Commission to seek out and document detailed, specific technical information regarding interference issues from public safety licensees. To date, Motient has not seen a clear record of the interference cases cited by Nextel in its proposed plan. Without detailed information on the technical merits, Motient cannot support a radical restructuring of the 800 MHz band, when other interference mitigation techniques may suffice.

Motient strongly favors an approach that would solve the interference problems on a local level, as opposed to a total reorganization of the 800 MHz band. Motient does not believe that the interference cases cited by Nextel have been properly detailed so that other interested parties, including other users of the 800 MHz band, may judge if case-by-case resolution or more radical restructuring is necessary in the band. Additionally, prior to consideration of re-banding, Motient encourages the Commission to explore adopting modified technical requirements for interfering licensees, rather than a wholesale, broad-brush solution that encompasses not only affected parties, but also innocent licensees such as Motient. Even if the Commission determines that re-banding or re-tuning of the 800 MHz band is the most appropriate method for reducing

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[2] *Promoting Public Safety Communications: Realigning the 800 MHz Land Mobile Radio Band to Rectify Commercial Mobile – Public Safety Interference and Allocate Additional Spectrum to Meet Critical Pubic Safety Needs*, Nextel Communications, Inc., ET Docket Nos. 00-258 and 95-18, IB Docket No. 99-81, WT Docket No. 99-87 (submitted Nov. 21, 2001) ("Nextel White Paper").

interference to public safety, such interference mitigation requirements will be necessary during the years it will take to accomplish any extensive restructuring of the band.

B. Additional Technical Requirements For CMRS Licensees Could Reduce Interference to Adjacent Channel Public Safety Operations

From Motient's review of the anecdotal evidence of harmful interference between public safety and CMRS licensees in the 800 MHz band, it appears that the root cause of such interference is a steadily increasing aggregate level of power utilized by CMRS licensees overwhelming the sensitive receivers employed by public safety licensees in adjacent bands. Without true technical details, Motient is hamstrung in recommending specific remedial techniques for these interference events, but it certainly appears that methods to lower the power used by CMRS licensees in these particular cases could rectify the harmful interference effects. The Commission could impose such technical requirements only upon the spectrum bands closest to public safety. Also, the Commission could explore the efficacy of limiting the power of base station transmitters in accordance with the heights of the transmitting antennas. Thus, if a CMRS licensee desired to use a higher transmitter power, the corresponding transmit antenna would need to be at a greater height. This methodology, for example, is in place in the Commission's rules governing use of the 698 to 746 MHz band for wireless services, where licensees have limits placed on the power and antenna height of the base station transmissions.[3]

Another technical requirement could be to modify the existing emission mask limitations for CMRS licensees that would require band-edge filtering to further limit the emissions of off-channel energy. This could be accomplished in whole or in part by the replacement of the present hybrid combining in systems to a less loss-limited cavity combining architecture. At a

[3] *See, e.g.*, 47 C.F.R. § 27.50(c) (limiting ERP values in relation to antenna heights).

minimum, the FCC should investigate and develop new emission mask limitations that will enable public safety operations to be better protected from harmful interference.

Motient recommends that the Commission provide greater technical detail concerning the harmful interference cases cited by Nextel, which will allow all affected parties an opportunity to understand truly the interference environment at 800 MHz. With this data, each party will be in a better position to provide recommendations to the Commission or accept the inevitability of restructuring the 800 MHz band.

C. Case-by-Case Analysis of Particular Incidents of Harmful Interference Could Preserve the Existing Licensing Structure in the 800 MHz Band

The incidents of harmful interference should be addressed on a case-by-case basis rather than through a comprehensive re-banding approach. A case-by-case approach would be less disruptive because it would allow most incumbent operators to retain their current spectrum allocations while still addressing the interference problem. This approach is also superior to re-banding because it only requires action from those operators who cause the interference to public safety.

In fact, the only demonstrated cases of harmful interference discussed by the Commission appear to be in highly urbanized areas. Further, CMRS licensees are not likely to deploy extensive networks in rural and suburban areas, lessening the potential interference impact to public safety operations in those areas. Conversely, re-banding the 800 MHz band does not limit the resolution of interference only to those affected areas. Rather, it uses a broad-brush approach to remedy inappropriate interference effects that are not present in these environments.

D. Prior to Relocating Public Safety to the 700 MHz Band, Steps Must Be Taken to Mitigate Existing Interference to Public Safety Caused by Nextel and Other Licensees

Regardless of whether the Commission ultimately selects one of the proposed solutions to the interference problem, it should first require all interference-causing licensees to take steps to mitigate their interference now. Any re-banding plan will take many years to implement and, in the meantime, Nextel and others licensees will continue to cause interference to public safety and other 800 MHz operators. Therefore, the Commission should implement measures to reduce interference as quickly as possible and certainly prior to implementing any long-term solution for the 800 MHz band.

III. MOTIENT'S OPERATIONS ARE SIGNIFICANTLY DIFFERENT FROM MOST OTHER USERS IN THE 800 MHZ BAND AND REQUIRE SPECIFIC ACCOMMODATIONS IN THE EVENT OF ANY RELOCATION

Motient has a spectrally-efficient system which is notably different from the other commercial networks deployed in the 800 MHz band. As such, any relocation plan must carefully consider these differences. In particular, should the Commission ultimately determine to re-band the 800 MHz band, Motient requests that the Commission consider grandfathering the use of Motient's two core channels of operation, which would vastly lower Motient's relocation costs and minimize its service disruption.

A. The Motient Network Is A Purely Data Network

The Motient network is a data network that uses a design technique known as single frequency reuse ("SFR"), which allows an entire metropolitan area to be served by the same 25

kHz channel pair.[4] This technology creates virtual channels by allowing multiple transmitters to be keyed on the same channel at the same time, thus increasing channel capacity by using the same time slot to send different messages to different users within the service area. The technology increases spectral efficiency by enhancing the capacity of every channel pair used in the network.

IBM, the original owner of the Motient network, initially requested two 25 kHz channel assignments for its use across the entire country, but was granted six channel pairs in different areas to accommodate treaty agreements and licensing restrictions. Subsequent modifications to the network required the addition of available channel pairs in certain areas. When new channels are added, they are reported to subscriber units in the area by using open airtime on one or more of the original six channels to broadcast available channel information. With the SFR RF system design, Motient can add thousands of new users in a given coverage area using only one additional channel at a time. The Motient network makes extremely efficient use of the spectrum and can continue to grow one channel at a time.

However, the core system design architecture of the Motient network still relies heavily upon the use of two channels throughout the country, delineated as Channels 161 and 194 by the Commission's rules.[5] While it is conceivable that Motient could migrate from other channels used by its network, the nature of its specialized SFR system requires unique handling of its two

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[4] SFR gives users better coverage inside buildings and in fringe areas because the critical inbound RF path (device to network) can be received by more than one base station. Additionally, SFR permits frequency reuse, which allows separate messages to be sent simultaneously on the same channel. Finally, SFR generally allows a city coverage area to be designed with only one RF channel, provided that the number of users is less than the channel's full capacity.

[5] Channel 161 corresponds to 25 kHz frequency pairs centered at 855.0125 MHz/810.0125 MHz; Channel 191 corresponds to 25 kHz frequency pairs centered at 855.8375 MHz/810.8375 MHz. *See* 47 C.F.R. § 90.613.

core channels. If relocation ultimately is required, the relocation burden faced by Motient could be greatly reduced by protecting these two key channels.

B. Any Relocation Or Re-banding of the 800 MHz Band Would Be Highly Disruptive To Motient And Its Customers

Because Motient provides hundreds of thousands of customers with wireless data services across the entire United States, it would be highly disruptive and costly for Motient to relocate outside the 800 MHz band. To relocate to the 700 MHz or 900 MHz band, Motient would have to replace equipment for each of its subscribers and base stations. Furthermore, such equipment is not available from any vendor at this time that would support Motient's DataTAC network.

Reallocating all channels within the 800 MHz band would create a significant burden for Motient in terms of cost, implementation time, and quality of service. Relocation would require Motient to recall and reprogram all subscriber units to add the new channel assignments into the "core" device channel list. After the transition to the newly assigned channels, Motient would need to reprogram the channel list into each subscriber unit a second time to remove the original channels to reduce the amount of time required for subscribers to access the Motient service while roaming to different coverage areas.

The disruption to Motient during an 800 MHz band reorganization would be equally matched by the disruption faced by its customers. Motient's customers rely on the constant availability of Motient's network to perform critical business functions. For example, customers such as UPS rely on Motient's network to track the progress of their deliveries. Any disruption in Motient's service would be devastating to UPS' ability to meet its customers' needs. If Motient could not continue to guarantee this type of reliability, its ability to compete on the basis of its key attributes—coverage and reliability—would be destroyed.

C. Grandfathering Motient's Two Key Channels Would Dramatically Reduce Motient's Relocation Costs

The Motient network could adapt to available frequencies in a coverage area without a change to the subscriber units by using one or more of the original six channels in each coverage area as both a traffic-carrying channel and a connectivity channel. Ideally, the two primary channels of the original six core channels would be licensed to Motient at all locations across the country. Thus, a more practical alternative, though still very costly, would be to exempt Motient's two primary core channels from relocation across the United States. If the two core channels were available to Motient at all locations, Motient individually could acquire all the other channels it needs anywhere in the 806-821 MHz/851-866 MHz band. Although this approach would require modifications to each base station to convert channel assignments, the network configuration could be accomplished without having to reprogram all the subscriber units on the network.

IV. IF RELOCATION IS REQUIRED, ALL AFFECTED PARTIES MUST BE PROPERLY REIMBURSED FOR RELOCATION COSTS

Any relocation from the 800 MHz band, if found to be in the public interest, must not only be funded by the commercial entities that are receiving the benefit of such a relocation, but also must ensure that displaced incumbents receive fully comparable facilities and spectrum in accordance with well-established Commission precedents for accommodating relocated services. Motient submits that it is not consistent with sound public policy to require Motient to fund relocation or realignment of its licensed spectrum, especially licenses purchased recently through the Commission's auction process, when Motient is not a source of interference to public safety operations.

Motient cannot afford to expend funds necessary to relocate or re-tune its operations from the 800 MHz band to piecemeal spectrum locations in the 700 MHz, 800 MHz, or 900 MHz bands. Subscriber equipment and devices would have to be completely overhauled and recreated to handle, potentially, three different operating bands. All of the more than 240,000 existing subscriber units would have to be recalled and replaced. Each of the approximately 2,300 base stations employed by Motient would have to be reengineered potentially to include base station transmitters for 700 MHz frequencies, new 800 MHz frequencies, and 900 MHz frequencies.[6] Obviously, these changes would be extremely costly and time consuming and would likely result in substantial ongoing and recurring costs for subscriber and base station equipment. In addition, the disruption to Motient's business that would flow from any such relocation would almost certainly have a negative effect on subscriber levels, revenue growth, and profits. The long-term effect of such disruption would be considerable and the cost of replacing subscriber equipment and network infrastructure would be in excess of $990 million.

The Commission has consistently required that licensees who are relocated from their licensed spectrum receive compensation and comparable facilities. In the initiation of Personal Communications Service, Mobile Satellite Service, and the upper 200 channel 800 MHz SMR band, dislodged licensees all received compensation for their costs associated with relocation and comparable spectrum for their services.[7] The restructuring plan proposed by Nextel seems to

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[6] The number of subscriber units and base stations cited are current estimates and are likely to increase substantially before the Commission would be able to implement a relocation plan.

[7] *See, e.g.,* Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, ET Docket No 92-9, *First Report and Order and Third Notice of Proposed Rule Making*, 7 FCC Rcd 6886 (1992); Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service, ET Docket No. 95-18, *First Report and Order and Further Notice of Proposed Rule Making*, 12 FCC Rcd 7388, ¶ 42; Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band, PR Docket No. 93-144, *First Report and Order, Eighth Report and Order, and Second Further Notice of Proposed Rule Making*, 11 FCC Rcd 1463, 1525, ¶ 74.

suggest that licensees who are neither the source of interference nor in need of relocation, should help foot the bill for eradicating what appears to be a significant concern for Nextel and cellular carriers. Likewise, the National Association of Manufacturers ("NAM") proposal[8] fails to define clearly the reimbursement rights of incumbents. It is incomprehensible that the Commission, given its past handling of relocation, would even consider relocation proposals that do not properly address the reimbursement and relocation rights of incumbent licensees.

A. Any Spectrum Reorganization Plan Should Not Create Spectrum Windfalls for Those Causing Interference to Public Safety

If a new configuration of the 800 MHz band is shown to be the most effective method to alleviate interference in the band, the Commission must ensure that this process does not enhance current spectrum holdings, especially for those currently causing interference to public safety. The Commission must not allow 800 MHz operators to benefit from the solution to interference caused by their operations. Similarly, 800 MHz users who do not cause interference should not be relegated to secondary status within the 800 MHz band.

B. Avoid the Imposition of Costs on Those Licensees That Do Not Pose A Serious Interference Threat to Public Safety

Any re-banding scenario adopted by the Commission must allocate relocation costs to 800 MHz operators who are causing the interference. In its White Paper, Nextel acknowledges that its own operations are the primary cause of interference to public safety in the 800 MHz band.[9] Other 800 MHz users should not have to share in the cost of remedial actions to correct problems caused by Nextel's and other CMRS licensees' commercial operations.

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[8] Letter from Clyde F. Morrow, Sr., President, MRFAC, Inc. and Jerry J. Jasinowski, President, National Association of Manufacturers to The Honorable Michael K. Powell, Chairman, Federal Communications Commission (dated Dec. 21, 2001).

[9] *See* Nextel White Paper at 9.

More specifically, 800 MHz users who do not cause harmful interference to public safety users should not be required to incur the significant expenses involved in relocating their own operations to other spectrum. Neither should non-interfering entities have to fund the relocation of public safety licensees to solve interference problems caused by others.[10] Motient has diligently worked to provide interference protection to critical public safety operations. If the Commission decides to relocate Motient, either within the 800 MHz band or to other spectrum, the Commission must follow its well-settled precedent for compensating displaced licensees, both with comparable facilities and disruption costs.

V. BOTH THE NEXTEL AND NAM INITIAL PROPOSALS ARE INADEQUATE

The *800 MHz NPRM* focuses on the Nextel and NAM proposals, because they were the first proposals on the topic submitted to the Commission. Motient, which has expended enormous resources in building out wireless service and in purchasing licenses in good faith through the Commission's auction process, cannot support either the Nextel or NAM plan as proposed.

A. Nextel's Plan is Extremely Flawed

As the Commission is aware from Motient's January letter concerning Nextel's proposal,[11] Motient strongly opposes the Nextel plan. Nextel proposes to relocate all public safety operations to 20 MHz of spectrum in the 806-816 MHz/851-861 MHz bands, with digital SMR systems receiving 16 MHz of spectrum in the 816-824 MHz/861-869 MHz bands.

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[10] *See* Remarks of FCC Commissioner Kathleen Q. Abernathy, LMCC National Conference, Washington, D.C., April 19, 2002 (as prepared for delivery) ("I am quite skeptical of any proposal that requires the imposition of significant costs of any one group of licensees—particularly licensees that do not cause—and are not harmed by the interference.").

[11] *See* Letter from Walter V. Purnell, Jr. to Chairman Michael K. Powell, ET Docket No. 00-258, ET Docket No. 95-18, IB Docket No. 99-81, WT Docket No. 99-87 (dated Jan. 15, 2002).

Existing incumbent Business and Industrial/Land Transportation licensees would be required to relocate themselves from the 800 MHz band to either the 700 or 900 MHz bands offered by Nextel for relocations. Digital SMR system licensees would be required to relocate themselves within the 800 MHz band to the new 816-824 MHz/861-869 MHz band. Finally, Nextel would provide $500 million of funding to aid public safety relocation and receive 10 MHz of 2 GHz Mobile Satellite Service spectrum in return for providing the 700 and 900 MHz relocation spectrum. As is discussed in detail below, the Nextel plan suffers from several severe shortcomings and should not be considered by the Commission.

1. Treatment of Incumbent Users Is Insufficient

The current Nextel proposal is an extremely one-sided vision of the 800 MHz band. Nextel has failed to recognize the catastrophic effects its plan would have on displaced users of the 800 MHz band. Among other deficiencies, Nextel's plan fails to address Motient and how the needs of its over 240,000 customers will be met while essentially requiring Motient to pay the price – a very steep price – for the interference sins of others. Similarly, the Nextel plan does not address any of the many other private wireless users that have expended enormous resources to deploy subscriber units and infrastructure in the 800 MHz band.[12] If the 800 MHz band is to be restructured, Commission licensees, such as Motient, who have abided by the Commission's technical rules and requirements and avoided harmful interference to other licensees, should not be disrupted operationally or financially. The Nextel proposal would lead to severe disruption of Motient's system and would force Motient to sustain extensive costs to relocate to the 700, 800 or 900 MHz band. Motient strongly opposes any re-banding proposal that fails to address the relocation rights of incumbent licensees in the 800 MHz band.

2. Nextel's Proposal Would Lead To a Spectrum Windfall

Nextel brazenly believes that small, scattered spectrum blocks are comparable to a contiguous block of spectrum that has well-established and developed equipment readily available for use. To believe that the 700 MHz guard band spectrum, which will be entrenched with broadcast TV licensees until at least 2007, or the narrow band 900 MHz spectrum is comparable to contiguous spectrum at 2 GHz strains credulity. Further, Nextel's plan would allow it to obtain 16 MHz of contiguous spectrum in the 800 MHz band where it currently has only 10 MHz of contiguous spectrum. The Commission should not approve any plan that so obviously favors a particular party and provides such a large spectrum windfall.

3. Particular Spectrum Holdings Are Not Clearly Identified

The Nextel plan also does not provide a clear picture of the spectrum that would be available for displaced carriers. Nextel offers its 700 MHz and 900 MHz spectrum holdings for relocation; however, Nextel does not have a nationwide footprint for the 700 MHz band. A study of the 700 MHz Guard Band auction results shows that Nextel has coverage holes in significant population centers, such as New Orleans, Wichita, Spokane, Louisville, Little Rock, El Paso, and Omaha. Of even greater concern, the 700 MHz band is encumbered throughout the country with analog TV stations until at least December 31, 2006. Therefore, Nextel's 700 MHz holdings hold little opportunity for displaced licensees until at least 2007. Finally, Nextel has not even articulated which 900 MHz licenses and spectrum it would make available for relocation. Thus, neither Motient nor the FCC can accurately assess whether a nationwide footprint would be available.

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[12] *See, e.g.*, Letter from Laurette T. Koellner, President, Shared Services Group, The Boeing Company to Chairman Powell (Jan. 14, 2002).

B. The NAM Proposal Could Be Improved

If re-banding of the 800 MHz band is required, the proposal made by the National Association of Manufacturers ("NAM") and MRFAC, Inc. is much closer to an appropriate restructuring of the 800 MHz band. The NAM proposal would have public safety users re-tune their systems from the 821-824/866-869 MHz band to the 806-811/851-856 MHz band. Business and Industrial/Land Transportation users would re-tune their systems to the 811-821/851-856 MHz band. Finally, cellular-type SMR systems would re-tune to the vacated public safety band at 821-824/866-869 MHz.

This restructuring would only require re-tuning of the 800 MHz band, and it would allow all incumbent users to maintain their spectrum holdings. However, as discussed below, this band plan has continued to be revised privately since its submission to the FCC to address some of its drawbacks.

1. Digital SMR Systems Would Receive A Spectrum Windfall

As noted in the Nextel proposal, Motient believes that digital, cellular-type SMR systems would obtain a spectrum windfall under the NAM proposal, as it will permit them to add contiguous spectrum where they previously had piecemeal spectrum holdings in the 800 MHz band. However, the NAM proposal provides only 13 MHz, instead of 16 MHz, for digital, cellular-type SMR systems.

2. The Plan Does Not Provide Public Safety With a Buffer From All SMR Systems

Although public safety interference is the rationale for radical re-tuning of the 800 MHz band, the NAM proposal does not guarantee that all SMR systems will be spectrally separated from public safety operations. Motient is unable to forecast accurately whether this would cause

additional interference issues in the future, but a better path would be to separate all SMR-type systems spectrally from public safety operations.

3. Reimbursement of Relocated Incumbents Not Addressed

The NAM proposal does not address one of the issues key to any relocation proposal. Who will pay for re-tuning or relocating equipment and re-equipping displaced operators must be a part of any re-banding plan adopted by the Commission.

4. Transition Planning Is Problematic

For safety of life communications services any system downtime or failure could be catastrophic. The NAM proposal does not provide for concurrent operation of existing public safety systems and testing of new public safety facilities. Additionally, critical infrastructure industries, such as electric, gas, power, and airline networks cannot tolerate system failures. As such, it is unclear how contemporaneous testing of these systems can take place under the NAM proposal.

VI. RELOCATION OF PUBLIC SAFETY SYSTEMS TO THE 700 MHZ BAND WOULD BE THE MOST EFFECTIVE RESOLUTION OF THE INTEFERENCE ISSUES IN THE 800 MHZ BAND

In lieu of the Nextel and NAM proposals, Motient has been briefed on a proposal being formulated by Cingular Wireless and the private wireless industry ("700 MHz proposal"). This proposal would relocate all public safety operations to the 746 to 806 MHz band ("700 MHz band"), allow existing private wireless licensees to maintain their systems, make available newly unencumbered 800 MHz spectrum through an auction process, and potentially provide revenue for the relocation of the public safety systems. Of the proposals Motient is aware of, the 700 MHz proposal would best meet all the proposed goals of the Commission. In fact, this proposal is receiving extensive consideration by NAM and MRFAC, two of the original 800 MHz re-

banding proponents. Consequently, Motient asks that the Commission give strong consideration to this proposal.

A. The Proposal of Cingular To Move the Public Safety Operations to the 700 MHz Band Will Serve All of the Commission's Desired Goals

In the *800 MHz NPRM*, the Commission asserted that neither the Nextel nor NAM proposals satisfied its goal of reducing or eliminating interference to public safety licensees in the 800 MHz band without burdening existing licensees.[13] On the other hand, the 700 MHz proposal would cause minimal disruption to existing licensees, would provide funding for the relocation necessary to alleviate public safety interference, would allow for concurrent testing and operation of public safety systems prior to a transition, and would not confer a spectrum windfall upon any party causing interference to public safety operations.

1. Public Safety Will Obtain Access to Additional, Interference-Free Spectrum

Relocation of public safety operations to the 700 MHz band would create sufficient spectral separation from the offending CMRS licensees in the 800 MHz band. Only at the band edge, at 806 MHz, would there be the potential for adjacent channel CMRS operations. However, since this band was initially a General Category Pool of channels, there are some localities where there might be non-CMRS operations on the adjacent channel. Therefore, the 700 MHz proposal would eliminate the interleaved nature of the 800 MHz band as it pertains to needed safety of life operations and greatly reduce the potential for adjacent channel interference.

Even more importantly, public safety systems would receive 26.5 MHz of additional spectrum for homeland security communications, interoperable networks, and priority access

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13 *See 800 MHz NPRM*, ¶ 20.

systems in the event of national emergencies. This is an improvement of better than 150 percent over the new spectrum obtained from the Nextel proposal and it would be accomplished without the other drawbacks inherent in the Nextel plan.

2. Existing CMRS Licensees Will Obtain Additional Commercial Spectrum

Another benefit of the 700 MHz proposal is that 7.75 MHz of spectrum would be available for auction. This would enable CMRS carriers to compete fairly for additional enhanced SMR or cellular spectrum to complement their existing spectrum holdings in the 800 MHz band. Potentially, even non-CMRS licensees may value the interleaved 1.75 MHz of spectrum enough to purchase it through a competitive bidding process, especially in those markets where spectrum is very scarce. More importantly, the 700 MHz proposal will not grant any particular CMRS party a spectrum windfall, but rather require participation through a normal Commission auction process.

3. Business and Land Transportation Licensees Will Be Fully Accommodated

As explained above, Motient has extensive license holdings in the 800 MHz Business Pool frequencies. Such licenses would cause Motient to be greatly harmed and disrupted by any effort to relocate its operations and its subscribers to new channels. From Motient's perspective, the 700 MHz proposal exceeds all other re-banding proposals because it does not entail any relocation or re-tuning of Motient's subscriber base. Instead, it accomplishes the Commission's goal of eliminating interference to critical safety of life operations by relocating their facilities to a new, unaffected band. Additionally, the other Business and Industrial/Land Transportation licensees will not be required to relocate and will be unaffected by this plan. As a tertiary point, enhanced SMR companies, such as Nextel and Southern Company, would be unaffected by this proposal as they, too would not require relocation or re-tuning of their operations.

4. Safety of Life Communications Will Not Be Disrupted During a Transition

Because the 700 MHz band would be an entirely different spectrum band for public safety operations, new public safety facilities could migrate to the new band while still operating their networks at 800 MHz. This parallel system operation will ensure that all safety of life communication networks will not be disrupted or interrupted during the transition to new interference-free spectrum. Additionally, it will permit actual network testing prior to reliance upon the network for real-time operations. Other proposals under consideration by the Commission fail to consider or to provide sufficient spectrum for such a seamless transition.

5. Relocation Costs Will Be Funded Through Auction Revenue

Another crucial advantage of the 700 MHz proposal is its funding mechanism for the relocation of incumbent public safety operations. Although Nextel has offered up to $500 million to relocate existing public safety operations under its plan, Nextel also contemplates requiring other licensees to relocate and self-fund its proposal. In contrast, under the 700 MHz proposal, only public safety licensees would be required to relocate, and their relocation could potentially be funded from the proceeds of an auction of the 7.75 MHz of vacated 800 MHz spectrum.

B. 700 MHz Relocation Has Significant Obstacles to Overcome

While Motient supports the 700 MHz plan, it recognizes that this tentative proposal has several burdensome hurdles to overcome. With diligence and support of all affected licensees, Motient is confident that each of these obstacles can be dealt with so that the 700 MHz plan provides the most beneficial outcome for all affected parties.

1. Use by Incumbent Broadcasters Will Continue Until at Least 2007

As noted above, the 700 MHz band is encumbered throughout the country with analog TV stations until at least December 31, 2006. Therefore, the 700 MHz band holds little opportunity for displaced licensees until at least 2007 without Congressional action. The 700 MHz proposal contemplates working with Congress to allocate the entire 700 MHz band to public safety, to target revenues from auction of the 700 MHz band for relocating public safety facilities, to set a definitive timeframe for broadcasters to vacate the 700 MHz band, and to delay the 700 MHz auction. Thus, the significant problem of broadcaster incumbency may very well be solved through this legislative process.

2. 700 MHz Guard Band Licensees Must Be Accommodated

Relocation of public safety users displaced from the 800 MHz spectrum to the 700 MHz band must accommodate the existing licensees in the 700 MHz Guard Bands. The Commission has already allocated the 700 MHz spectrum, promulgated the rules governing the Guard Bands, and auctioned the Guard Band licenses to the highest bidder. The proposal to relocate public safety to the 700 MHz band must take into account the Commission's recent actions and provide for suitable spectrum and compensation for the licensees in this band. Alternatively, the Commission may wish to consider allowing Guard Band licensees to continue to operate their networks, as a determination has already been made that these operations will not cause harmful interference to public safety networks.

3. Auction for the 700 MHz Band Scheduled for June 2002

After numerous delays, both the Upper and Lower 700 MHz band spectrum auctions are scheduled for June 19, 2002. An auction of the spectrum would jeopardize any plan to relocate 800 MHz public safety operators into this band. Motient notes that the Wireless

Telecommunications Bureau has denied the request of the Cellular Telecommunications and Internet Association's request for a delay of the 700 MHz auction.[14] However, on April 17, 2002, Commerce Department Secretary Donald Evans, on behalf of the Bush Administration, sent a letter to Chairman Powell urging the FCC to postpone the auctions in the Upper and Lower 700 MHz bands.[15] Additionally, on April 16, 2002, the Private Wireless Coalition submitted a letter requesting Commission deferral of the planned auctions to provide additional time to consider the potential of this band for mitigating the interference effects in the 800 MHz band.[16] Motient urges the full Commission to reconsider the initial decision of the Wireless Telecommunications Bureau, so that all possible avenues for resolving public safety interference in the 800 MHz band can be explored. The Commission will have to act quickly if it wishes to postpone the auctions yet again, because short-form applications are due to the FCC on May 8, 2002.

VII. ONE 800 MHZ RE-BANDING PROPOSAL HAS POTENTIAL FOR PUBLIC SAFETY INTERFERENCE RESOLUTION

If the Commission fails to embrace the most beneficial restructuring proposal at 700 MHz, Motient believes that there is one re-banding proposal that is more appropriate than either the Nextel or NAM initial proposal.

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[14] Letter from Thomas J. Sugrue, Chief, Wireless Telecommunications Bureau to Thomas E. Wheeler, President/CEO, Cellular Telecommunications & Internet Association (dated April 10, 2002).

[15] Letter from Donald L. Evans, Commerce Dept. Secretary to The Honorable Michael K. Powell, Chairman, Federal Communications Commission (dated April 17, 2002).

[16] Letter from ARINC, AAR, FIT, ITA, MRFAC, NAM, SBT, and UTC to The Honorable Michael K. Powell, Chairman, Federal Communications Commission (dated April 16, 2002).

A. Industry Consensus Proposal

The Industry Consensus Proposal has drawn some private wireless industry support. Under this plan, public safety would be moved to the 806-811/851-856 MHz band and into the 811-812/856-857 MHz band where there are no incumbent SMR operations. Business and Industrial/Land Transportation licensees would move to the 812-816/857-861 MHz band and be interleaved with SMR licensees. The Lower 80 SMR channels would remain as they are, but no cellular technology systems would be permitted below 816/861 MHz on any channels.

1. Industry Consensus Proposal Would Reduce Relocation Requirements for 800 MHz Licenses

The Industry Consensus Proposal would not require re-tuning of all existing licensees in the 800 MHz band. Rather, some licensees, including Lower 80 and Upper 200 SMR licensees would not be subject to frequency changes. A number of Business and Industrial/Land Transportation licensees would not be subject to channel shifts. Additionally, incumbents would be required to relocate only as necessary, and in many cases, they would not have to move.

2. Public Safety Would Obtain Additional Spectrum

Under this proposal, the allocation of spectrum for public safety would increase from 4.75 MHz plus the General Category channels used by public safety to a new total of 5.6 MHz. Additionally, the spectrum for public safety at 800 MHz would be adjacent to the 700 MHz public safety operations, allowing for more efficient public safety use of both bands.

3. Business and Industrial/Land Transportation Licensees Would Maintain Their Existing Spectrum Holdings

Unlike other plans under consideration, Business and Industrial/Land Transportation licensees would only forfeit 4 channels (or 0.1 MHz) of spectrum under the Industry Consensus

Proposal. Also, as noted above, a number of Business and Industrial/Land Transportation licensees would maintain their existing license holdings without any changes.

4. The Industry Consensus Plan Has Difficult Obstacles to Overcome

The Industry Consensus Proposal does not clearly provide for funding for the re-tuning process. The re-tuning costs apparently would be borne by incumbent licensees and it is unclear what funding will be available for public safety to ensure a seamless transition. Moreover, the four channels that Business and Industrial/Land Transportation licensees would be forced to surrender could be very difficult to select, especially in congested, urban environments, where spectrum is particularly scarce. Most importantly, spectrum below 816/861 MHz would not be available for cellular-type architecture networks, an inappropriate limitation that would penalize licensees in the 800 MHz band that use such a network infrastructure and do not cause harmful interference to public safety entities. Similarly, the plan does not provide for the transition of public safety systems to their new spectrum bands. Unlike the 700 MHz proposal, it appears that public safety operations would have to accept new systems in new bands without the use of parallel operations or real-world testing of the system prior to acceptance.

VIII. CONCLUSION

Motient understands and supports the Commission's efforts to study and rectify the apparent interference problems faced by the public safety industry from Nextel and other cellular licensees. Motient urges the Commission to consider less severe alternatives to total re-banding of the 800 MHz band and work toward a solution that is fair to all 800 MHz licensees. If the Commission decides that it must adopt a wholesale re-banding plan, the Commission must make every effort to support Motient and other similarly situated entities by providing for proper relocation spectrum and funding.

Respectfully Submitted,

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May 6, 2002